

Application No. 10/674,846
Response dated March 15, 2005
Reply to Office Action mailed December 16, 2004

REMARKS

Claims 1-21 are currently pending in this application. The Applicant thanks the Examiner for the indication of allowable subject matter.

The Examiner rejected claims 1-2, 13-16 and 19-21 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,545,946 to Huss, et al. (hereinafter "Huss"). The Examiner indicated that claims 3-12 and 17-18 contain allowable subject matter.

The Examiner's rejections have been carefully considered and are respectfully traversed. The Applicant asks the Examiner to consider the following.

Independent claim 1 recites the feature of applying an entropy filter to said echo signal. Independent claim 13 recites the feature of applying an entropy based filter to the echo profile. Independent claim 19 recites the feature of applying an entropy filter to said echo profile. According to the present invention and the application as originally filed, the word "entropy" is intended to accord with the definition known to those skilled in the art of statistical mechanics. "Entropy" refers to the statistical measure of randomness in a signal. (See, for example, the method of calculation detailed in paragraphs 25 through 31 of the specification, as originally filed.)

In contrast to the present invention as claims, Huss fails to disclose or suggest a statistical approach to filtering echo signals in time-of-flight measurement systems. The simple approach disclosed by Huss concerns accepting or rejecting echo pulses based on their time of arrival falling within a particular time window (e.g., if the time lag between a first emitted pulse and its echo is T_{E-1} , then the echo time T_E between a second emitted pulse and its echo must be T_{E-1} plus or minus a tolerance T_w (Column 5, ll. 33-67). As such the method taught by Huss does not relate to a statistical measure of how much randomness is in the echo signal compared to how

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much information is carried by the signal (or vice versa). Furthermore, the approach disclosed by Huss does not involve entropy. Therefore, it is submitted that independent claims 1, 13, and 19 are not anticipated by Huss because Huss fails to disclose or teach each and every feature recited in the independent claims. Since claims 2, 14-16 and 20-21 depend either directly or indirectly from these claims, it is submitted that these claims are also not anticipated by the cited reference.

It is respectfully submitted that the present remarks herein represent a complete response to all outstanding issues. Favorable consideration and allowance is respectfully requested.

In the event that the Examiner finds remaining impediment to a prompt allowance of this application that may be clarified through a telephone interview, the Examiner is requested to contact the undersigned attorney.

Dated this 15 day of March, 2004.

Respectfully submitted,



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